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WITH THE
CORN BORER

Issued in the interest of corn-borer control conducted by the United States Department of Agriculture in cooperation with the State departments of agriculture and State agricultural colleges in New York, Pennsylvania, Ohio, Michigan, and Indiana.

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FEDERAL CORN-BORER BUDGET

The agricultural appropriations bill carrying the appropriation for the regular research and control work on the European corn borer was passed by the House of Representatives on March 3 and is now before the Senate Committee on Appropriations. This bill carries the following items:

To continue and extend research work (Studies of the life history, distribution, hosts, control measures, parasites, etc.)	$ 219,920
To carry on special research studies (Agronomy, substitute crops and feeds, insecticides, utilization of corncobs and stalks, machinery, economic adjustments.	$ 150,000
To prevent spread. (Enforcement of quarantine and clean-up to prevent long-distance spread.)	$ 887,660
Total. . .	$ 1,257,580

Address communications to Information Division, Corn-Borer Control, Extension Service, United States Department of Agriculture, Washington, D. C.

CAMPAIGN MACHINERY CONDITIONED

Ever since the corn-borer control campaign of 1927 ended last summer and the machinery was withdrawn from the fields, farmers and others interested have asked, in various tones of voice, "And now what has the Government done with all the machinery?"

The answer is found at Camp Perry, near Oak Harbor, Ohio, where practically all the machinery is under cover in storage sheds. What is not at Camp Perry is under cover at Toledo and Elyria, Ohio, and other places. More than that, it has all been overhauled and is ready for use this spring. Depreciation, the engineers estimate on the basis of facts in their possession, has been less than 10 per cent.

Since September 12, a force of between 30 or 40 mechanics headed by D.A.Milligan, service overseer, has overhauled, kept detailed cost accounts on, and stored some 2,800 units of machinery at Camp Perry. The Army has lent not only the use of storage sheds, but also the facilities of the vast ordnance depot and machine shop at Camp Perry for overhauling and repairing.

Five storage sheds, 400 feet long by 96 feet wide, house most of the corn-borer control machinery at Camp Perry. In all, there are now under cover 993 tractors, 602 plows, 515 stubble beaters (150 of these are still in the fields, having been used by farmers during the last fall and winter), 127 light trucks, and 90 heavy trucks.

Besides being overhauled, tractor cylinders have been filled with oil, plows have been greased, and trucks with pneumatic tires jacked up.

So thoroughly and efficiently has the job been done that Mr.Milligan can tell you in what shed and what bay each piece of machinery stands, how much it cost to overhaul it, in terms of labor and materials, and what the depreciation has been. In a word, you can find, on easily available records, the complete life history, so far as the Government is concerned, of every piece of machinery bought last spring.

This job has been done with a staff of less than 40 men. Cost of overhauling and repairing has averaged less than 1 per cent of the original cost, except on stubble beaters, whereon the comparatively low original cost and the need for new blades combined to raise somewhat the percentage cost of the overhauling.

Of late, Mr. Milligan and his staff have concentrated on reconditioning 115 heavy trucks, which failed to stand up under field conditions last spring and summer. This work goes more slowly than the usual job of overhauling, for it involves a certain amount of rebuilding. This, however, will be finished by March 15.

WELCOME

AND

HERE'S THE KEY

"With the Corn Borer" welcomes to the ranks of its readers the vocational agricultural teachers. The paper is yours and will be a whole lot better if you share your experiences with the rest of the readers working on the corn-borer educational and control problem. Methods you have found successful in presenting the corn-borer material will be helpful to others working toward the same end. Any interesting control projects undertaken by the students will be eagerly read by the rest of us.

ECHOES OF THE NEW YORK MEETING

Held February 24 in Buffalo, N.Y., including all interested in corn-borer education and control.

The conference agreed that in 1927 the value of good inspection was demonstrated. It was found that mature men with good judgment and tact made the best inspectors. It was requested that the county corn-borer committee prepare a list of prospective inspectors at once. L.H. Worthley, corn-borer administrator, reported that 1928 inspectors would be chosen with great care as to their capacity to handle the work.

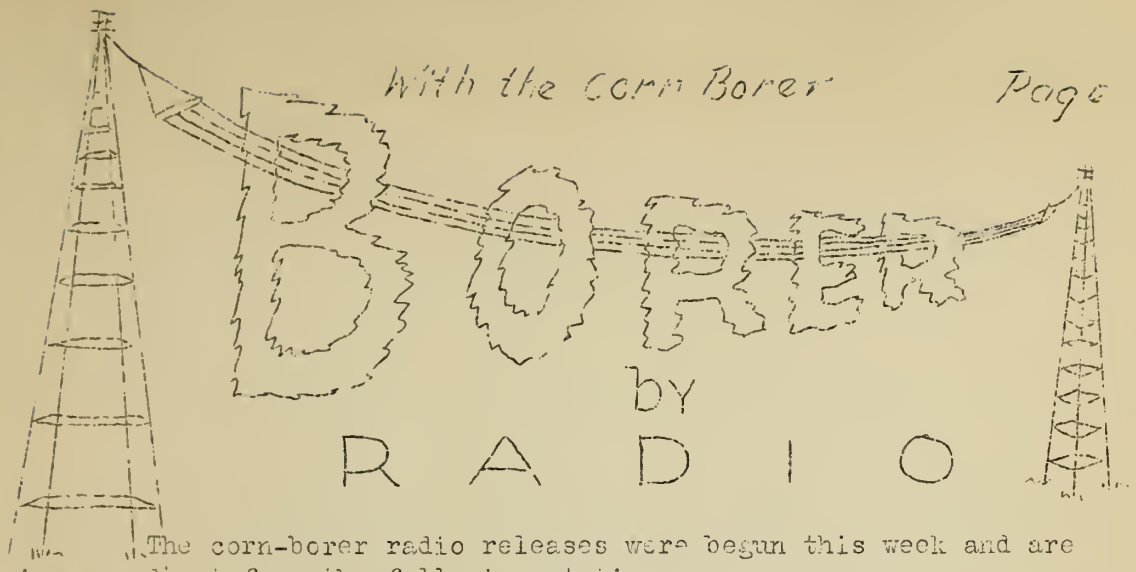
Extension work in engineering will emphasize the following points, said G.H.Brainard, extension engineer:

(1) Fitting of stubble to be plowed.
(2) Clean plowing.
    (a) Plow adjustments.
    (b) Trash-covering attachments.
(3) Fitting of field so that buried material would not be brought to the surface.

Plowing demonstrations for corn-borer control and good plowing are needed in Chautauqua and Cattaraugus Counties, reported the county agents.

Niagara County is in excellent shape due to the educational work in the schools and with the growers done last year by H.M.Bowen, special agent in 1927. This county sent in one-half of the pledge cards received in the State last year.

The Indian representative from Tuscarora Reservation, Eli Henry, said he cleaned up 114 acres or more in 1927 and pledged the Tuscarora Agricultural Society to control the borer. "What white man does Indian will listen and work," said Mr. Henry.



The corn-borer radio releases were begun this week and are being broadcast from the following stations:

Ohio.....WSPD, Toledo, Monday, 10.45 a.m.; WEAO, Columbus, Tuesday, 1 p.m.

Michigan.....WASH, Grand Rapids, Tuesday, 12.30 p.m.; WJR, Detroit, Friday, 12.30 p.m.; WKAR, East Lansing, 12 noon, day not given.

Pennsylvania...WFI, Philadelphia, Tuesday, 10.30 a.m.; WCAE, Pittsburgh, Tuesday, 12 noon; WBAK, Harrisburg, Tuesday, 1.30 p.m.; WFBG, Altoona, Tuesday, 3.45 or 7.30 p.m.

New York.....WMAK, Buffalo, Monday, 12.30 p.m.; WHEC, Rochester, Tuesday, 7 p.m.; WIBX, Utica, 5.15 p.m.; day not given, WGY, Schenectady, day and time not given.

Indiana.....WFBM, Indianapolis, Monday, 2 p.m.; WOWO, Fort Wayne, Thursday, 11.30 a.m.

Iowa.....KSO, Clarinda, Monday, 7.30 a.m.; KOIL, Council Bluffs, Monday, 5.15 p.m.; WHO, Des Moines, Wednesday, 9 a.m.; WOC, Davenport, 9.45 a.m.; 11 a.m.; or 2 p.m., day not given.

Minnesota.....WRHM, Fridley, Monday, 1 p.m.

Kansas.....KFH, Wichita, Wednesday, 11.15 a.m.;

Illinois.....WLS, Chicago, Wednesday, 12.20 p.m.; WJJD, Mooseheart, 12.30 p.m., day not given.

Nebraska.....KFMJ, Clay Center, Friday, 9.30 to 11.30 a.m.

Wisconsin.....WLBL, Stevens Point, Saturday, 12.30 p.m.

North Dakota...WDAY, Fargo, Wednesday, 6 p.m.

Virginia.....WRVA, Richmond, Monday, 12.15 p.m.; WLPG, Petersburg, 12.15 p.m.

Maine.....WCSH, Portland, Monday, 12.15 p.m.

New Jersey.....WCAX, Trenton, Monday, 12.35 p.m.; WAAM, Newark, Wednesday, 8.15 a.m.

Washington, D.C. WMAL, Tuesday, 7.30 p.m.

Maryland.....WCAO, Baltimore, day not given.

Missouri.....WDAF, Kansas City, noon, day not given.

The series will run for nine weeks, the release for the current week being printed in "With the Corn Borer."

LIVING WITH THE CORN BORER

Broadcast week of March 5. Questions on the corn borer answered by a department specialist called, for the purpose of this release, Mr. Jack Stone.

Mr. Stone, the first thing I want to know is, did the European corn borer increase in numbers in 1927?

STONE: The answer is yes and no. That is, in Ohio and New York, representing two-thirds of the control area, the number of corn borers was reduced. But in Michigan and Pennsylvania, where conditions were apparently favorable to increase, the borer population more than doubled. Because of the increases in these States, there were one and one-half times as many borers in the whole area at the end of 1927 as there had been at the end of 1926.

ANNOUNCER: How much of a reduction in the number of borers was there in Ohio and New York?

STONE: Before giving the answer, I ought to explain that we report the corn-borer census returns in terms of numbers of borers per 100 cornstalks. On that basis, the reduction in Ohio was from 6 borers per 100 stalks in 1926 to 5 borers per 100 stalks in 1927. In New York the 1926 count showed 12 borers per 100 stalks, and the 1927 count showed 10. Not many borers, comparatively speaking, have settled in Indiana. Even in 1927, infested Indiana regions had less than one borer to each 100 stalks of corn.

ANNOUNCER: Now tell me, Mr. Stone, if the corn borer invaded any new territory last year.

STONE: Yes, the borer was discovered for the first time in 1927 in 55 counties where it hadn't been found in 1926. The principal spread was to the south in Ohio as far as Pickaway County; to the west in Indiana to within 30 miles of Lake Michigan; and to the north in Michigan to the Straits of Mackinac. By States, the number of counties newly found infested last year was: Ohio, 18; Pennsylvania, 14; Michigan, 12; Indiana, 10; and New York, 1.

ANNOUNCER: That satisfies my curiosity about the increase in numbers of corn borers and the extent of their spread into new territory last year. Now I'd like to know just exactly what means of controlling the corn borer have been found from the past year's experience in fighting it.

STONE: Briefly stated, the opinion of the U. S. Department of Agriculture is that serious commercial injury by the corn borer --------

ANNOUNCER: Just a second; put me straight please on what you mean by serious commercial injury.

STONE: I can't put you entirely straight on that in a second. Commercial damage depends upon the number of borers per stalk, the variety of corn, and the size and vigor of the plants. The specialists say that a field in which the average stalk is giving board and lodging to five borers probably won't be commercially damaged, but one with 30 borers to the stalk will produce no crop. In field corn "commercial" damage begins to be felt when the borer population gets to 10 per stalk. Slightly fewer borers per stalk will cause "commercial" damage to sweet corn.

Now to get back to control methods. As I said, the department holds that serious commercial damage by the corn borer can be pretty well prevented by sticking to the low-cutting, clean-plowing, poling, raking, and burning methods of control. Even though the wet spring last year enormously increased the difficulties of cleaning up by such methods, the 1927 campaign showed that they will retard the increase in borers, or actually reduce their numbers, as resulted, for example, in Ohio and New York.

ANNOUNCER: Well, let's get down to cases on the spring work that needs to be done in order to keep the borer under our thumb. First, tell me where the borers have been staying on our farms during the winter months.

STONE: During the winter months the borer hibernates in old pieces of cornstalk, stubble, or cob, either in the fields or in the barnyard. Its favorite winter retreat is high stubble left in the field. As the stalk dries up the borer crawls down toward the roots where there is more moisture, and lives comfortably enough during the winter. But the borer will hole up for the cold season in any old piece of last year's corn plant around the farm. In June the borer turns into a moth which flies about for two or three weeks, and lays about 400 eggs. These eggs hatch into larvae -- that is, the young borers -- which do the damage to the corn crop. In the opinion of scientists about 15 of each 100 larvae get into the corn plant, so thatthe average borer produces 60 effective children to harry the farmer next season.

ANNOUNCER: So then it is necessary to get rid of every piece of last year's corn plant in a way that will kill the borer?

STONE: Exactly.

ANNOUNCER: And how can that be done?

STONE: By low cutting, plowing completely under all corn refuse, raking and burning, and ensiling and shredding.

ANNOUNCER: Well, now, take a specific case: In a field of standing stalks, what clean-up methods are recommended.

STONE: In a field of standing stalks, the stalks are broken or cutoff close to the gound, raked, and burned. The stalks are cut or broken off by any one of several methods. Many farmers use an old railroad rail; others use a heavy pole, or a heavy timber with sharp edges, for this purpose. On frosty mornings the cutting or breaking-off job can be done to best advantage

when the stalks are brittle and snap off like pipestems. When the ground is frozen is a good time to break or cut off the stalks. The stalks are then raked into piles or windrows and burned. This can be done later in the season during dry and sunny periods.

If small grains are to be sown in standing stalk fields, all the stalks must be cut or broken at the ground level. Unless a clean job is done the raking and burning process later on will be greatly handicapped.